

Notice of Allowability

Application No.

10/768,886

Examiner

Vinod Kumar

Applicant(s)

YANG ET AL.

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/19/07, 9/25/07, and interview of 09/24/07.
2. ☒ The allowed claim(s) is/are 56-59.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date SAME.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Status of Objections and Rejections

1. Office acknowledges the receipt of Applicant's amendments filed in the paper of September 19, 2007. All previous claim objections and rejections have been withdrawn in view of Applicant's declaration filed under 37 C.F.R. §1.131 in the paper of September 25, 2007, and Examiner's amendment as set forth below.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Angela Foster (Reg. No. 48,494) on September 25, 2007.

In the claims:

Claims 6-10, 26, 28, 32, 36, 38, 42, 44, 51-55 have been cancelled.

Claim 56 (new). A transgenic plant cell comprising an isolated nucleic acid molecule which comprises a nucleotide sequence selected from the group consisting of: a) a nucleotide sequence as set forth in SEQ ID NO:1; and b) a nucleotide sequence encoding a polypeptide having an amino acid sequence as set forth in SEQ ID NO:2; wherein expression of said nucleotide sequence increases tolerance to low

temperature of 4°C, salinity and drought in the plant cell compared to an untransformed plant cell of the same species.

Claim 57 (new). A transgenic plant comprising an isolated nucleic acid molecule which comprises a nucleotide sequence selected from the group consisting of: a) a nucleotide sequence as set forth in SEQ ID NO:1; and b) a nucleotide sequence encoding a polypeptide having an amino acid sequence as set forth in SEQ ID NO:2; wherein expression of said nucleotide sequence increases tolerance to low temperature of 4°C, salinity and drought in the plant compared to an untransformed plant of the same species.

Claim 58 (new). A transgenic seed obtained from the transgenic plant of claim 57, wherein the seed comprises the nucleic acid molecule.

Claim 59 (new). A method of producing a transgenic plant with increased tolerance to abiotic stress, said method comprising transforming a plant cell with an isolated nucleic acid molecule which comprises a nucleotide sequence encoding the polypeptide as set forth in SEQ ID NO: 2, and growing said plant cell into the transgenic plant, wherein said plant expressing the nucleotide sequence has increased tolerance to said abiotic stress, and wherein said abiotic stress is low temperature of 4°C, salinity, and drought.

Applicants authorized to cancel claims 6-10, 26, 28, 32, 36, 38, 42, 44, and 51-55.

The above amendments were made to obviate potential issues under 35 U.S.C. 112, 1st and 2nd paragraphs, and 35 U.S.C. 103(a).

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance: Applicants have developed a method for imparting abiotic stress tolerance to a transgenic plant comprising introducing and expressing a polynucleotide sequence encoding a polypeptide of SEQ ID NO: 2 in said transgenic plant.

The prior art teaches a polynucleotide sequence encoding an amino acid sequence having 100% sequence identity to instant SEQ ID NO: 2 (Wen et al., NCBI, GenBank, Sequence Accession No: AF216314, Pages 1-2, Published December 2000). However, the prior art does not teach or suggest the properties of SEQ ID NO: 2 comprising protective mechanisms against abiotic stresses of low temperature, salinity and drought. Therefore, there is no motivation to transform and expression of said polynucleotide sequence in plants. Accordingly, the claimed invention is free of the prior art.

Conclusions

4. Claims 56-59 are allowed.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Phuong T. Bui', with a stylized, cursive script.

PHUONG T. BUI
PRIMARY EXAMINER